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Silvio Dalla Piazza

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GRIFFIN & SZIPL, PC

SUITE PH-1

2300 NINTH STREET, SOUTH

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EXAMINER

ROSENAU, DEREK JOHN

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,033	<b>Applicant(s)</b> DALLA PIAZZA ET AL.	
	<b>Examiner</b> Derek J. Rosenau	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-16, 18-23 and 25-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-16, 18-23 and 25-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (US 2003/0168944) in view of Luff (US 6456168)

3. Claims 12-15, 18, 19, 21-23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff and Uchida et al. (JP 08-316732).

4. With respect to claim 12, Shimizu et al. discloses an electronic component (Figs 1-6) comprising at least one resonator element (item 2) arranged in a first housing of a case (Figs 1-5), the case comprising: (a) a main part provided with a base (item 4); and (b) a cover (item 3) fixed onto the main part to hermetically seal the first housing of the case (Paragraph 15), wherein at least one portion of the cover is transparent to a determined wavelength of a light beam to allow the resonator element to be optically adjusted (Paragraph 23), wherein the cover is made with a material that is friable or breakable (Paragraph 21, the material used for the cover is glass, which is a breakable material), wherein the main part is made of a hard material (Paragraph 26).

Shimizu et al. does not disclose expressly at least one lateral wall of annular shape; that the cover is fixed onto a rim of the lateral wall of the main part; that one part of the rim entirely surrounds a lateral surface of the cover to ensure protections of the

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cover of the electronic component against shocks; or that a space is provided between the lateral surface of the cover and the one part of the rim surrounding the cover, wherein the space is substantially of smaller dimension than the thickness of the cover in order to facilitate mounting of the cover on the rim of the lateral wall of the main part and in order to avoid propagation on the cover of lateral shock against the rim.

Luff teaches an electronic component that includes a resonator element including at least one lateral wall of annular shape (Fig 3), wherein the cover (item 160) is fixed onto a rim of the lateral wall of the main part (Fig 3), and that one part of the rim entirely surrounds a lateral surface of the cover to ensure protection of the cover of the electronic component against shocks (Figs 1-3), and that a space is provided between the lateral surface of the cover and the one part of the rim surrounding the cover (Fig 3).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the lateral wall of Luff with the resonator element of Shimizu et al. for the benefit of reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff).

Uchida et al. teaches a piezoelectric resonator in which the space between the lateral surface of the cover (item 5) and the one part of the rim (item 1a) is substantially smaller than the thickness of the cover (Fig 1b). The language "in order to facilitate mounting of the cover on the rim of the lateral wall of the main part and in order to avoid propagation on the cover of lateral shock against the rim" does not positively recite any structural elements, and is therefore not given patentable weight.

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At the time of invention, it would have been obvious to a person of ordinary skill in the art to form the electronic component of Shimizu et al. as modified by Luff et al. such that the space between the lateral surface of the cover and the one part of the rim is reduced in size, such as in Uchida et al., as it has been held that a mere change in the relative dimensions in a device is obvious (*Gardner v. TEC Systems Inc.*, 227 USPQ 964).

5. With respect to claim 13, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the hard material is a ceramic material (Paragraph 26).

6. With respect to claim 14, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Luff discloses that a height of the one part of the rim surrounding the lateral surface of the cover is larger than or equal to a thickness of the cover fixed onto the rim (Fig 3).

7. With respect to claim 15, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the transparent cover is a glass cover (Paragraph 21).

8. With respect to claim 18, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the first housing of the main part of the case that includes the resonator element is vacuum sealed (Paragraph 23), wherein the resonator element is a quartz resonator (Paragraph 21) adjustable by a laser beam through the transparent portion of the cover (Paragraph 23), and said quartz resonator comprises a tuning fork with two parallel

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arms (Fig 6) connected to each other by a bridge (Fig 6) and carrying electrodes to make the arms vibrate (Paragraph 15). Luff discloses that the main part of the case further includes at least one stud (items 172 and 174) secured to the base onto which the tuning fork is fixed, and said electrodes are electrically connected through the main part of the case to external connection terminals (items 175, 177 and column 4, lines 33-39).

9. With respect to claim 19, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Luff discloses an oscillator circuit electrically connected to the resonator element (items 180-184 and Abstract).

10.

11. With respect to claim 21, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses a getter type material (item 1) is arranged in the first housing of the resonator element to act as a vacuum pump when activated (Paragraph 23).

12. With respect to claim 22, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 21. Shimizu et al. discloses that the getter type material is a layer of evaporated titanium or chromium in the first housing of the resonator element (Paragraph 15), and wherein this layer of titanium or chromium is disposed to be activated by means of a laser beam through the transparent portion of the cover so as to act as a vacuum pump and lower the oscillation frequency of the resonator element (Paragraphs 23 and 29).

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13. With respect to claim 23, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 22. Shimizu et al. discloses that the getter type material is disposed on a part of the inner face of the cover (Fig 2).

14. With respect to claim 25, Shimizu et al. discloses an electronic component (Figs 1-6) comprising at least one resonator element (item 2) arranged in a first housing of a case (Figs 1-5), the case comprising: (a) a main part provided with a base (item 4); and (b) a cover (item 3) fixed onto the main part to hermetically seal the first housing of the case (Paragraph 15), wherein at least one portion of the cover is transparent to a determined wavelength of a light beam to allow the resonator element to be optically adjusted (Paragraph 23), wherein the cover is made with a material that is friable or breakable (Paragraph 21, the material used for the cover is glass, which is a breakable material), wherein the main part is made of a hard material (Paragraph 26).

Shimizu et al. does not disclose expressly at least one lateral wall of annular shape; that the cover is fixed onto a rim of the lateral wall of the main part; or that one part of the rim entirely surrounds a lateral surface of the cover to ensure protections of the cover of the electronic component against shocks.

Luff teaches an electronic component that includes a resonator element including at least one lateral wall of annular shape (Fig 3), wherein the cover (item 160) is fixed onto a rim of the lateral wall of the main part (Fig 3), and that one part of the rim entirely surrounds a lateral surface of the cover to ensure protection of the cover of the electronic component against shocks (Figs 1-3).

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At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the lateral wall of Luff with the resonator element of Shimizu et al. for the benefit of reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff).

15. With respect to claim 26, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 25. Luff discloses that a height of the one part of the rim surrounding the lateral surface of the cover is larger than or equal to a thickness of the cover fixed onto the rim (Fig 3)m And wherein the one part of the rim entirely surrounds the lateral surface of the cover (Figs 1-3).

16. With respect to claim 27, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 25. Luff discloses a space provided between the lateral surface of the cover and the one part of the rim surrounding the cover (Fig 3).

Neither Shimizu et al. nor Luff discloses expressly that the space is of substantially smaller dimensions than the thickness of the cover in order to facilitate mounting of the cover on the rim of the lateral wall of the main part and in order to avoid propagation on the cover of lateral shock against the rim.

Uchida et al. teaches a piezoelectric resonator in which the space between the lateral surface of the cover (item 5) and the one part of the rim (item 1a) is substantially smaller than the thickness of the cover (Fig 1b). The language "in order to facilitate mounting of the cover on the rim of the lateral wall of the main part and in order to avoid



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propagation on the cover of lateral shock against the rim” does not positively recite any structural elements, and is therefore not given patentable weight.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to form the electronic component of Shimizu et al. as modified by Luff et al. such that the space between the lateral surface of the cover and the one part of the rim is reduced in size, such as in Uchida et al., as it has been held that a mere change in the relative dimensions in a device is obvious (*Gardner v. TEC Systems Inc.*, 227 USPQ 964).

17. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff, Uchida et al., and Kizaki et al. (US 5841217).

18. With respect to claim 16, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12.

None of Shimizu et al., Luff, or Uchida et al. discloses expressly that the rim of the main part of the case receiving the cover includes a first annular layer of gold plating, wherein a periphery of an inner face of the cover includes a second annular layer of gold plating, and wherein the cover is welded onto the rim using a metal alloy preform arranged between the first annular layer of gold plating and the second layer of gold plating, wherein the metal alloy is formed of tin and gold.

Kizaki et al. teaches an electronic component including a resonator element and in which the rim of the main part of the case receiving the cover includes a first annular layer of gold plating (item 18, column 7, lines 47-51), wherein a periphery of an inner face of the cover includes a second annular layer of gold plating (column 6, lines 13-20),

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and wherein the cover is welded onto the rim using a metal alloy preform arranged between the first annular layer of gold plating and the second layer of gold plating, wherein the metal alloy is formed of tin and gold (column 4, lines 46-54).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the base-cover attachment materials of Kizaki et al. with the resonator element of Shimizu et al. as modified by Luff and Uchida et al. for the benefit of increasing the strength of the airtight bond (column 6, lines 21-24 of Kizaki et al.).

19. Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff, Uchida et al., and Kondo et al. (US 5949294).

20. With respect to claim 20, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 19.

None of Shimizu et al., Luff, or Uchida et al. discloses expressly that the oscillator circuit is arranged in a second housing of the main part, wherein the second housing is delimited by the lateral wall and the base, and the second housing is arranged on an opposite face of the base to the first housing of the resonator element, wherein said oscillator circuit is encapsulated in the second housing by a resin and is electrically connected to external connection terminals of the electronic component, and wherein the base of the main part of the case includes electrical connection paths for electrically connecting the oscillator circuit and the resonator element.

Kondo et al. teaches an electronic component including a resonator element (Fig 18) in which the oscillator circuit (item 2) is arranged in a second housing of the main part (item 1), wherein the second housing is delimited by the lateral wall and the base

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(Fig 18), and the second housing is arranged on an opposite face of the base to the first housing of the resonator element (Fig 18), wherein said oscillator circuit is encapsulated in the second housing by a resin (item 23) and is electrically connected to external connection terminals (items 11 and 14) of the electronic component, and wherein the base of the main part of the case includes electrical connection paths (items 11-14) for electrically connecting the oscillator circuit and the resonator element.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the second housing and resin of Kondo et al. with the resonator element of Shimizu et al. as modified by Luff and Uchida et al. for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

21. With respect to claim 28, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the at least one resonator element is vacuum enclosed in the first housing (Paragraph 2).

None of Shimizu et al., Luff, or Uchida et al. disclose expressly an integrated circuit arranged in a second housing of the case, wherein the second housing is delimited by the lateral wall and the base of the main part, and the second housing is filled with resin encapsulating the integrated circuit.

Kondo et al. teaches an electronic component that includes an integrated circuit (item 2) arranged in a second housing of the case (item 1), wherein the second housing

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is delimited by the lateral wall and the base of the main part (Fig 18), and the second housing is filled with resin (item 23) encapsulating the integrated circuit (Fig 18).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the second housing and resin of Kondo et al. with the resonator element of Shimizu et al. as modified by Luff and Uchida et al. for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

22. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff and Kondo et al. (US 5949294).

23. With respect to claim 29, the combination of Shimizu et al. and Luff discloses the electronic component according to claim 25. Shimizu et al. discloses that the at least one resonator element is vacuum enclosed in the first housing (Paragraph 2).

Neither Shimizu et al. nor Luff disclose expressly an integrated circuit arranged in a second housing of the case, wherein the second housing is delimited by the lateral wall and the base of the main part, and the second housing is filled with resin encapsulating the integrated circuit.

Kondo et al. teaches an electronic component that includes an integrated circuit (item 2) arranged in a second housing of the case (item 1), wherein the second housing is delimited by the lateral wall and the base of the main part (Fig 18), and the second housing is filled with resin (item 23) encapsulating the integrated circuit (Fig 18).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the second housing and resin of Kondo et al. with the resonator

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element of Shimizu et al. as modified by Luff for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

***Response to Arguments***

24. Applicant's arguments filed 26 August 2009 have been fully considered but they are not persuasive.

25. Applicant argues that Shimizu et al. does not disclose a means for protecting the cover against lateral shocks during manipulation of the electronic component. However, Shimizu was not relied on for this claim feature. Luff was cited for its teaching of this feature.

26. Applicant argues that the cover of Luff is made of Kovar, which not a material that is friable or breakable. First, Luff has not been cited for this claim element. Shimizu et al is cited for its teaching of this element. In addition, any material can be defined as breakable as every material inherently has a breaking strength and is therefore breakable.

27. Applicant argues that the part of the rim 135 is not provided to protect the cover but is only provided to allow making of external terminals used for mounting of the component on a PCB. While Luff is silent with respect to the protection the part of the rim (135) provides to the cover, the arrangement of the part of the rim (135) would inherently provide at least some degree of protection to the cover that would not exist in the absence of the part of the rim.

28. Applicant argues that Luff does not disclose (i) "one part of the rim entirely surrounds a lateral surface of the cover and ensures protection of the cover of the

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electronic component against lateral shocks” or (ii) “a space is provided between the lateral surface of the cover and the one part of the rim surrounding the cover, wherein the space is substantially of smaller dimension than the thickness of the cover in order to facilitate mounting of the cover on the rim of the lateral wall of the main part and in order to avoid propagation on the cover of lateral shock against the rim”. However, each of these limitations are taught by either Luff or Uchida et al. Luff discloses “one part of the rim entirely surrounds a lateral surface of the cover and ensures protection of the cover of the electronic component against lateral shocks” (Figs 1-3) and “a space is provided between the lateral surface of the cover and the one part of the rim surrounding the cover” (Fig 3). Uchida et al. discloses “the space is substantially of smaller dimension than the thickness of the cover” (Fig 1b). The language “in order to facilitate mounting of the cover on the rim of the lateral wall of the main part and in order to avoid propagation on the cover of lateral shock against the rim” does not positively recite any structural elements.

29. Applicant argues that the reliance upon *Gardner v TEC Systems Inc.* is not appropriate to the facts of the case. However, in this case, it was held that “where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device” (MPEP 2144.04(IV)(A)). Therefore, the holdings of this case are not restricted to a rejection having only one reference. In

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addition, Uchida et al. has been cited to show that it is known to form a device with a space that is smaller than the thickness of the cover.

30. Applicant argues that because Luff shows a space that is larger than a thickness of the cover that Luff teaches against smaller spaces. However, Luff never explicitly or implicitly teaches away from smaller spaces. Although Luff shows a device with a larger space, this is not, by itself, a teaching away from smaller spaces.

31. Applicant argues that the claimed size of the space provides benefits not realized by the arrangement of Luff. However, the prevention of propagation of lateral shocks would be further enhanced by having a larger space. The propagation of shocks is prevented because of the physical separation of the one part of the rim and the lateral surface of the cover. A larger gap would therefore have at least the same level of protection against the propagation of lateral shocks.

32. Applicant argues that there is no legitimate reasons to justify the combination of references and that there is not a reasonable expectation of success. However, the reasons for combining the teachings of these references have been provided as follows. The reason for combining Shimizu et al and Luff was provided as "for the benefit of reducing the size of the finished package". The reason for combining Uchida et al. and Shimizu et al. was provided as "it has been held that a mere change in the relative dimensions in a device is obvious". The reason for combining the teachings of Kizaki has been provided as "for the benefit of increasing the strength of the airtight bond". The reason for combining the teachings of Kondo has been provided as "for the benefit of providing electromagnetic shielding between the components of the device".

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33. Applicant argues that the rim of Luff is not positioned to protect against lateral shocks, and that because of this, it would not be obvious to combine Luff's teachings with Shimizu et al. However, the prior art does not need to provide the same benefits as the claimed invention and teachings of the prior art may be combined for different reasons than those of the claimed invention.

### ***Conclusion***

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek J. Rosenau whose telephone number is (571)272-8932. The examiner can normally be reached on Monday thru Thursday 7:00-5:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on (571) 272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Derek J Rosenau/  
Examiner, Art Unit 2837

/Walter Benson/  
Supervisory Patent Examiner, Art Unit 2837